MSN Organics Private Limited

MSNOPL Solvents Implementation

FY:2025-26

MSNOPL

Organics Solvents improvements

Sr. No	Product	Existing Activity	Proposed Activity	Summary	Benefit	Status
1	Tapentadol HCl	Tapentadol HCl tech stage RFS(Column) Toluene using for the batch: 850 L (Batch Size: 260 Kg Toluene qty:2.6 V)	Tapentadol HCl tech stage Proposed In-process distillate Toluene instead of RFS Toluene for the batch	➢ In the F-block two batches residue from A-block consider as input and proceeded further operations. ➢ Total qty for 2batches :1700 L ➢ Purity:99.63 & UKI: 0.15%(THF) ➢ In-Process distillate getting 1400 L , So consider remaining qty 300 L consider for the Column distillate, so need to improve the Toluene recovery qty for the batches . ➢ **For one batch 700 L In-House distillate toluene +150 L RFS Toluene** consider and updated the **BOM.** ➢ BOM updated on 25/02/2026 from the Batch No: TET50**65**26. ➢ Present Batch NO:TET50**90**26.	1)Per one batch CC contribution is **200 INR.** 2) Per batch cost saving **:42700 INR.** (RFS:**61 INR).** 3)Per month 24 batches: **10.2 Lakhs** 4) Previously, there was a shortage of RFS Toluene due to its use in Tapentadol. At present, a sufficient quantity of RFS Toluene is available for other products	Completed
2	Ticagrelor	1)Ticagrelor tech stage process using fresh solvents details Batch Size: 250 Kg. 1) Cyclohexane: 3.8V 2) Chloroform: 9.4 V 3) Due to insufficient cooling ,Chloroform solvent loss around 700 L per batch (I/P: 1100L).	1)Proposed RFS Chloroform and Cyclohexane for the process. 2) Vacuum controller and Chilled water segregation for F-block proposal approved . 3) F/SSR/30 condensers utility modification	➢ Cyclohexane GC results: Purity: 99.92% & Total impurities: 0.08% ➢ Chloroform GC results: Purity: 86% & Cyclohexane: 14% ➢ With RFS Cyclohexane Present batches are under progress. ➢ With RFS chloroform R&D user test to be planned . ➢ Condenser Utility modification under progress.	1)Per batch cost saving using the RFS Cyclohexane instead of fresh **INR: 32300 INR (F: 96 INR , RFS:62 INR)** 2)Per month 10 batches: **3.2Lakhs** 3) After condenser utility modification Chloroform solvent recovery will be improved from 400L to 800 L, per batch 400 L solvent recovery improvement.. 4) Cost benefit: **1500 INR** per batch, per month: **15000 INR**	U/ Progress

Organics Solvents improvement

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4	Toperamate Stage-1	➢ Toperamate Stage-1 Acetone solvent qty for the batch: 2700 L(4.5V). Batch Size: 600 Kg ➢ During In-process distillation Acetone solvent loss observed around 1300 L per batch(I/P: 2700 L)	1)Proposed with RFS Acetone R&D user test to be planned. 2) Vacuum controller Proposal for Acetone distillation.	➢ Acetone consumption is highest in Toperamate Stage-1. Enhancing the efficiency of RFS Acetone will help reduce fresh acetone consumption in organic product process. ➢ Vacuum controller modification under progress.	After implementation of the vacuum controller, solvent recovery is expected to improve from 1300 L to 1800 L per batch Cost benefit for batch: **10000 INR** Per month: **1.0 Lakhs**	Under progress
5	Toperamate Stage-2	➢ Toperamate Stage-2 batch size: 500Kg. ➢ Total 5V of MDC for the Aqueous layer for impurity removal. ➢ Existing fresh MDC using for the batch.	Proposed RFS MDC for the process.	➢ Future campaign RFS MDC will be used for the batch. (April month onwards planning is there), CFT accepted for usage of RFS MDC	1)Per batch cost saving using the RFS MDC instead of fresh **: 25000 INR (F: 31 INR , RFS:20 INR).** 2) Per month: **2.5 Lakhs**.	Future campaign to be implementation
6	PGH2	➢ PGH2 batch size:300Kg, this stage Toluene Volume 11V (Reaction: 10V & Bedwashing:1 V). ➢ Fresh Methanol usage in the existing process.	Proposed RFS Methanol for the process.	1) Use test conducted with RFS Methanol with that reaction is not initiated . 2) 2nd use test initiated with 50% RFS & 50% fresh, in which reaction taken 24Hrs instead of 12Hrs.	–	Need to be discuss with R&D Team for the way forward.

Summary of the Solvents Improvements at Organics 2026

Sr .No	Product	Present Status		
		Implemented	**Under Progress**	**To be initiated**
1	Tapentadol HCl In-house distillate Toluene implementation instead of RFS Toluene	1)Cost Benefit per batch: **42700 INR**. 2)Per month (24 batches): **10.2 Lakhs**	------	------
2	Ticagrelor Tech stage RFS Cyclohexane implementation instead of Fresh Cyclohexane	------	1)Cost Benefit per batch: **32300 INR**. 2) Per month: **3.2 Lakhs**	------
3	Ticagrelor Tech stage Chloroform solvent recovery improvement due to Condenser utility modification.	------	1)Cost Benefit per batch: **1500 INR**. 2) Per month: **15000 INR**	------
4	Pioglitagine Stage-1 In-house distillate Toluene implementation instead of RFS Toluene.	------	------	1)Cost Benefit per batch: **2 Lakhs** 2) Per month: **20 Lakhs**
5	Toperamate Stage-1 Acetone solvent recovery improvement due to implementation of Vacuum controller .	------	------	1)Cost Benefit per batch: **10000 INR** 2) Per month: **1.0 Lakhs**
6	Toperamate Stage-2 RFS MDC implementation instead of fresh MDC	------	------	1)Cost Benefit per batch: **25000 INR** 2) Per month: **2.5 Lakhs**

Thanking You

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